

What is claimed is:

1. A method of consolidating particulates in a subterranean region comprising the steps of:

applying a preflush fluid to the subterranean region;

applying a resin composition to the subterranean region wherein the resin comprises:

from about 5% to about 30% phenol;

from about 40% to about 70% phenol formaldehyde;

from about 10% to about 40% furfuryl alcohol;

from about 0.1% to about 3% of a silane coupling agent; and,

from about 1% to about 15% of a surfactant; and,

applying an after-flush fluid to the subterranean region.

2. The method of claim 1 wherein the unconsolidated region is an area surrounding a wellbore.

3. The method of claim 2 wherein the resin is applied such that the area surrounding the wellbore is saturated to a depth from about 1 to about 3 feet.

4. The method of claim 1 wherein the unconsolidated region is an area surrounding a fracture.

5. The method of claim 4 wherein the resin is applied such that the area surrounding the fracture is saturated to a depth from about 0.25 to about 2 inches.

6. The method of claim 1 wherein the preflush fluid comprises an aqueous liquid and a surfactant.

7. The method of claim 6 wherein the aqueous liquid is fresh water, salt water, brine, or mixtures thereof.

8. The method of claim 6 wherein the surfactant comprises ethoxylated nonyl phenol phosphate ester, a cationic surfactant, a non-ionic surfactant, an alkyl phosphonate surfactant, or combinations thereof.

9. The method of claim 1 wherein the silane coupling agent is N-2-(aminoethyl)-3-aminopropyltrimethoxysilane, 3-glycidoxypropyltrimethoxysilane, n-beta-(aminoethyl)-gamma-aminopropyl trimethoxysilane, or combinations thereof.

10. The method of claim 1 wherein the surfactant is ethoxylated nonyl phenol phosphate ester, a cationic surfactant, a non-ionic surfactant, an alkyl phosphonate surfactant, or combinations thereof.

11. The method of claim 1 wherein the resin composition has a viscosity of below 100 cP.

12. The method of claim 1 wherein the resin composition further comprises a solvent.

13. The method of claim 12 wherein the solvent comprises 2-butoxy ethanol, butylglycidyl ether, dipropylene glycol methyl ether, dipropylene glycol dimethyl ether, dimethyl sulfoxide, dimethyl formamide, diethyleneglycol methyl ether, diethylene glycol dimethyl ether, ethyleneglycol butyl ether, diethyleneglycol butyl ether, gamma-butyrolactone, butylene carbonate, propylene carbonate, ethylene carbonate, methanol, butyl alcohol, d'limonene, fatty acid methyl esters, or combinations thereof.

14. The method of claim 1 wherein the aqueous liquid in the preflush solution comprises fresh water, salt water, brine, or mixtures thereof.

15. The method of claim 1 wherein the surfactant in the preflush solution comprises ethoxylated nonyl phenol phosphate ester, cationic surfactant, non-ionic surfactant, alkyl phosphonate surfactant, or mixtures thereof.

16. The method of claim 1 wherein the after-flush fluid comprises fresh water, salt water, brine, or mixtures thereof.

17. The method of claim 1 wherein the after-flush fluid comprises nitrogen.

18. The method of claim 1 further comprising the step of, after applying the after-flush fluid, waiting a chosen period of time.

19. The method of claim 18 wherein the chosen period of time is from about 6 to about 48 hours.

20. A resin composition comprising:
from about 5% to about 30% phenol;
from about 40% to about 70% phenol formaldehyde;
from about 10% to about 40% furfuryl alcohol;
from about 0.1% to about 3% of a silane coupling agent; and,
from about 1% to about 15% of a surfactant; and,
a solvent.
21. The resin composition of claim 20 wherein the silane coupling agent is N-2-(aminoethyl)-3-aminopropyltrimethoxysilane, 3-glycidoxypropyltrimethoxysilane, n-beta-(aminoethyl)-gamma-aminopropyl trimethoxysilane, or combinations thereof.
22. The resin composition of claim 20 wherein the surfactant is ethoxylated nonyl phenol phosphate ester, a cationic surfactant, a non-ionic surfactant, an alkyl phosphonate surfactant, or combinations thereof.
23. The resin composition of claim 20 further comprising a solvent.
24. The resin composition of claim 23 wherein the solvent comprises 2-butoxy ethanol, butylglycidyl ether, dipropylene glycol methyl ether, dipropylene glycol dimethyl ether, dimethyl sulfoxide, dimethyl formamide, diethyleneglycol methyl ether, diethylene glycol dimethyl ether, ethyleneglycol butyl ether, diethyleneglycol butyl ether, gamma-butyrolactone, butylene carbonate, propylene carbonate, ethylene carbonate, methanol, butyl alcohol, d'limonene, fatty acid methyl esters, or combinations thereof.
25. The resin composition of claim 20 wherein the resin further comprises a hydrolyzable ester.
26. The resin composition of claim 25 wherein the hydrolyzable ester comprises dimethylglutarate, dimethyladipate and dimethylsuccinate, sorbitol, catechol, dimethylthiolate, methyl salicylate, dimethyl salicylate, dimethylsuccinate, ter-butylhydroperoxide, or mixtures thereof.